The distribution of var. *polyclados* is essentially that of the coast plain along the Atlantic seaboard and inland up the Mississippi basin with its most marked development along the Atlantic seaboard from Marthas Vineyard southward where it was segregated as *A. littoralis*. A study of the type of *A. littoralis* Nash and of other specimens so determined by Mr. Nash fails to show any satisfactory combination of characters. It is true that these specimens usually show a tendency to have several nodes close together at the base of the culm and a marked tendency toward a vertical rootstock, but I believe these are ecological characters due to the sandy soil as gradations are common and similar tendencies were noted in var. *frequens*. The compression of the sheaths also seems too instable to carry weight and the glaucousness of the plant and the longer hairs at the apex of the internodes [this character was used by Nash to key out *A. littoralis*] do not couple with other characters. The flabellate character of the inflorescence seems reasonably constant and coupled with a definite geographic range, but intergrades with var. *frequens* and hence I believe is better considered a variety than a species. A single marked exception occurs linking this variety to var. *villosissimus* [one or two specimens of var. *villosissimus* are however noted as approaching var. *polyclados*]. NEW JERSEY: Five-mile Beach, *MacElwee*, no. 2024. The following specimens, listed above approach var. *frequens* in a greater or less degree, but all show a noticeably flabellate tendency in the inflorescence. MISSISSIPPI: Bayou Porto, Tracy, no. 3795. KANSAS: Riley Co., *Norton*, no. 582. NEBRASKA?: Republican Fork, *Englemann* and IOWA: Sioux City, *Pammel*, no. 107.

BOSTON, MASSACHUSETTS.

ADDITIONS TO THE FLORA OF CONNECTICUT.

SINCE the publication in 1910 of the Catalogue of Flowering Plants and Ferns of Connecticut,[1] a large amount of exploration has been done in the state and several previously unknown or inaccessible collections have been examined. The present article is an attempt to put the more important results of this work on record.[2] It includes reports of 88 indigenous and of 72 introduced species, varieties and named forms not included in the former publication. These have been marked, the native plants with an asterisk and the introduced plants with a dagger, in the following list.

[1] Bulletin no. 14 of the State Geological and Natural History Survey of Connecticut.

[2] In the case of records not here published for the first time, reference has been made in parenthesis to the original publication.

In addition there have been included a large number of new stations for the rarer species and extensions of range for those reported from restricted areas. Of such data, a considerable quantity which does not markedly modify the statements of the Catalogue has been excluded, because it seemed best to keep within reasonable limits of space. But it has been the intention to include all significant new information.

An attempt has been made to give the distribution of segregates published since 1910; but further study is likely to modify some of the conclusions here expressed.

ASPLENIUM EBENOIDES R. R. Scott. On ledges of shale, Berlin and Southington (H. C. Bigelow).

ASPLENIUM ANGUSTIFOLIUM Michx. Hartland (E. J. Winslow). Previously reported only from the trap hills of the central part of the state and from a single station in the calcareous region of the northwestern part.

DRYOPTERIS GOLDIANA (Hook.) Gray. *Aspidium Goldianum* Hook. Hartland (Bissell & Weatherby), North Canaan (Bissell), Danbury (E. J. Winslow, Weatherby). Previously reported only from the triassic region of central Connecticut.

The following hybrids in the genus *Dryopteris* have been recognized as occurring in the state.

D. CRISTATA × GOLDIANA. Plainville.

D. CRISTATA × MARGINALIS. Occasional throughout.

D. CRISTATA × SPINULOSA. Manchester, South Windsor, Windsor, Plainville, Southington, Plymouth.

D. CRISTATA, var. CLINTONIANA × GOLDIANA. Plainville, Hartland.

D. CRISTATA, var. CLINTONIANA × MARGINALIS. Manchester, Cromwell, Plainville.

D. CRISTATA, var. CLINTONIANA × SPINULOSA. Manchester, Windsor, Plainville, Southington, Cornwall.

D. CRISTATA, var. CLINTONIANA × SPINULOSA, var. INTERMEDIA. Manchester, Windsor, Plainville, Southington.

D. GOLDIANA × MARGINALIS. Southington, Plainville, Hartland.

D. GOLDIANA × SPINULOSA. Plainville.

D. MARGINALIS × SPINULOSA. South Windsor, Berlin, Plainville.

D. MARGINALIS × SPINULOSA, var. INTERMEDIA. Berlin, Manchester, Bristol, North Canaan.

* OPHIOGLOSSUM VULGATUM L., f. PSEUDOPODUM Blake. RHODORA, XV. 87 (1913). Manchester (A. W. Driggs).

EQUISETUM PRATENSE Ehrh. Salisbury (Mrs. C. S. Phelps, RHODORA, xvi. 96). Not previously reported from Litchfield Co.

* LYCOPODIUM ANNOTINUM L., var. ACRIFOLIUM Fernald. RHODORA, xvii. 124 (1915). Rare. Damp cold woods: Winchester (Bissell), Norfolk (J. H. Barbour), Colebrook (M. L. Fernald).

This variety, characterized by its firm, almost entire leaves, occurs as above. The other stations cited in the Catalogue are of true *L. annotinum*.

L. CLAVATUM, var. MEGASTACHYON Fernald & Bissell. RHODORA, xii. 53 (1910). *L. clavatum*, var. *monostachyon* of the Catalogue. Huntington (Eames). Not previously reported from Fairfield Co.

JUNIPERUS COMMUNIS L. Columbia, Southington and Hartland (Bissell & Weatherby), Mansfield (A. F. Greene), Guilford (W. R. Dudley). In the Catalogue reported only from Norwich.

SPARGANIUM AMERICANUM Nutt. Plymouth (A. E. Blewitt). Occasional throughout the southwestern part of the state. In the Catalogue reported only from eastern Connecticut.

S. LUCIDUM Fernald & Eames. Border of Alexander Pond, Killingly (Harger). Previously reported only from Hartford.

POTAMOGETON PULCHER Tuckerm. Local in ponds and slow streams near the coast.

P. ANGUSTIFOLIUS Berchtold & Presl. In the Housatonic River at Salisbury and Canaan (Eames & C. C. Godfrey), and at Kent and New Milford (Eames). In the Catalogue reported only from Oxford.

* P. CONFERVOIDES Reichenb. Rare. In ponds: Voluntown (Harger, G. E. Nichols).

RUPPIA MARITIMA L., var. ROSTRATA Agardh. Few collections of *Ruppia* with mature fruit have been examined, but most of the Connecticut material appears to be of this variety.

* R. MARITIMA L., var. SUBCAPITATA Fernald & Wiegand. RHODORA, xvi. 126 (1914). Madison (F. W. Hall, 1874; specimen in Herb. Conn. Agr. Exp. Sta.).

SCHEUCHZERIA PALUSTRIS L. Voluntown (Harger). Not previously reported east of the Connecticut valley.

SAGITTARIA ENGELMANNIANA J. G. Smith. Thompson (Weatherby). Previously reported only from southern New London Co.

ELODEA CANADENSIS Michx. The typical form of this plant, with ovate leaves, is occasional or locally abundant through the western part of the state. Narrow-leaved plants are rather common throughout the state and seem to fall into two series, of which the more lax

and narrower-leaved extreme is probably *Philotria angustifolia* (Muhl.) Britton.

* PASPALUM PUBESCENS Muhl. Rare. Sandy soil in the flood-plain of the Connecticut River, Hartford (Bissell & Weatherby).

PANICUM VIRGATUM L. The form "with two to several staminate or abortive florets to a spikelet," said to be caused by a smut (Contr. Nat. Herb., xv. 89), is often observed and sometimes abundant in certain localities (Eames).

* P. VIRGATUM L., var. CUBENSE Griseb. Groton (Graves). A somewhat intermediate form, referred to this variety by Hitchcock and Chase (Contr. Nat. Herb. xv. 92).

P. LONGIFOLIUM Torr. Killingworth (Weatherby).

P. SPRETUM Schultes. Killingworth (Weatherby), Woodstock (Harger), South Windsor (Weatherby & C. W. Vibert). Extensions of range north and west.

P. ORICOLA Hitchc. & Chase. Locally abundant on the coast in Fairfield Co. (Eames). In the Catalogue definitely reported only from Waterford.

P. ALBEMARLENSE Ashe. Southington (Andrews). In the Catalogue reported only from Waterford.

P. SCOPARIOIDES Ashe. Southbury (Harger, RHODORA, xv. 66). In the Catalogue reported only from Southington.

P. COMMONSIANUM Ashe. Sand-plains, North Haven (Andrews ex Hitchcock & Chase, Contr. Nat. Herb., xv. 92).

P. XANTHOPHYSUM Gray. Sandy soil, North Canaan (A. E. Blewitt). Rocky summit, Salisbury (W. R. Dudley; specimen in Herb. Yale University). Previously reported only from north-central Connecticut.

* P. ACULEATUM Hitchc. & Chase. Alluvial soil, Stafford (Bissell & R. W. Woodward).

* ECHINOCHLOA MURICATA (Michx.) Fernald. RHODORA, xvii. 105 (1915). Rare. Pond-margins and fields: Pomfret (Weatherby), Berlin (J. N. Bishop, RHODORA, l. c.), Killingworth (F. W. Hall; specimen in Herb. Yale University), Bridgeport (Eames, RHODORA, l. c.).

* SETARIA IMBERBIS R. & S. Rare. Wet fields: Branford (Harger), Fairfield (Eames).

† ZIZANIA PALUSTRIS L. Indian Rice. Rare. Streams flowing into Lake Congamond, Suffield (Eames & C. C. Godfrey), where it has spread from plants introduced into the lake many years ago.

* LEERSIA ORYZOIDES (L.) Sw., forma CLANDESTINA Eames. RHODORA, xviii. 239 (1916). Rare. Stratford (Eames, l. c.). Distinguished from the typical form by having the terminal as well as the lateral panicles included in the sheaths.

HIEROCHLOË ODORATA (L.) Wahlenb. A form with very large spreading panicles occurs at Fairfield (Eames).

* MILIUM EFFUSUM L. Millet Grass. Rare. Rich, rocky woods, Hartland (Bissell & Weatherby).

ORYZOPSIS PUNGENS (Torr.) Hitchc. Suffield and Simsbury (Weatherby), Morris (J. P. Brace about 1820; specimen in Herb. Williams College. Am. Journ. Sci. Ser. 1, iv. 73; RHODORA, xvi. 90). In the Catalogue not reported from west of the Connecticut River.

In the Catalogue the ranges of three species of *Muhlenbergia* of the *mexicana* group were necessarily left somewhat indefinite because of lack of data. It is now possible to make a more definite statement, as follows:—

MUHLENBERGIA SYLVATICA Torr. Occasional. Woods, borders of thickets and banks of streams.

M. FOLIOSA (R. & S.) Trin. Open bogs, wet woods, or rarely in drier ground. Frequent in the northern part of the state, becoming occasional near the coast.

The awned form has been collected at Guilford (W. R. Dudley, 1872; specimen in Herb. Yale University).

M. MEXICANA (L.) Trin. Fields, dooryards, roadsides and waste places, preferring moist, rich soil: Scotland (Weatherby), Litchfield (J. P. Brace about 1820; specimen in Herb. Williams College: RHODORA, xvi. 90), New Milford (Eames) and frequent or locally common in the central and southern parts of the state. Not reported from Tolland Co.

The awned form occurs with the typical form, but less commonly.

These three species, though offering, as defined by Prof. Scribner, a much more natural classification than the old one based on the presence or absence of the awn, are closely related, variable and not always easy to distinguish clearly. As between *M. mexicana* and the other two, a serviceable and constant character is found in the culm, which in the former, is glabrous throughout and in the two latter, minutely puberulent below the nodes.— C. A. WEATHERBY.

M. CAPILLARIS (Lam.) Trin. Cheshire (A. E. Blewitt). Otherwise known only from New Haven.

SPOROBOLUS NEGLECTUS Nash. Kent (Weatherby).

S. UNIFLORUS (Muhl.) Scribn. & Merr. Fairfield and Easton (Eames). In the Catalogue not reported from Fairfield Co.

(*To be continued.*)

E. B. HARGER,
C. B. GRAVES,
E. H. EAMES,
C. H. BISSELL,
L. ANDREWS,
C. A. WEATHERBY.

CAREX GYNOCRATES IN PENNSYLVANIA.— In Mr. Long's article on the occurrence of *Carex novae-angliae* in Pennsylvania he speaks of the fact that numerous other Canadian plants are being found in the upland region of the state, and it may be of interest to Pennsylvania botanists to know of an actual specimen of *Carex gynocrates* from Pennsylvania. In Porter's *Flora* the species is included (as *C. Redowskyana*) but without definite citation of locality or county. In the Gray Herbarium there is an excellent specimen which was collected by Goldie at Pittsburg and received from Hooker. This station is presumably now obliterated, but it is so near the stations in the upland region of central and western New York where *C. gynocrates* has long been known that search in the Alleghanian region of Pennsylvania may yet reveal the plant. In Newfoundland, southeastern Canada, and northern New England and New York the plant is found exclusively in calcareous bogs and swamps: in northern Maine, almost exclusively in arbor-vitae swamps where it forms close turf on knolls or decaying logs; but in Newfoundland, where arbor-vitae is unknown, the species is characteristic of the more calcareous swamps which are wooded with *Picia mariana* and *Larix laricina*.— M. L. FERNALD.

OENOTHERA PUMILA L. var. **rectipilis**, var. nov.— Formae typicae omnino similis, pilis caulis foliorumque recte patentibus exceptis.— NEW BRUNSWICK: dryish rocky ground, Petit Rocher, Gloucester Co., 21 Aug. 1913, *Blake* 5513 (TYPE in Gray Herb.); recent clearing, Bathurst, 25 July 1902, *Williams & Fernald*. ONTARIO: Queenston Heights, 6 July 1901, *J. Macoun*, 44,466 in part. NEW YORK (?): Niagara Falls, *Asa Gray*.